

December 1, 2004

To: Randy Segawa DPR rsegawa@cdpr.ca.gov

Fr: California Environmental Health Tracking Program, Department of Health Services/EHIB

Re: Comments on Environmental Justice Project: Pesticide Monitoring in a Rural Community

The California Environmental Health Tracking Program appreciates the opportunity to comment on DPR's proposed pesticide monitoring project. This project has the potential to make an important contribution in filling knowledge gaps regarding the relationship between pesticide application and human exposure. We commend DPR in initiating a project of this type. The Tracking Program offers the following comments in the interest supporting the development of a an effecting sampling protocol/strategy.

#### Issue 1: Air Monitoring Objectives

In addition to the sample objective, we would recommend that DPR consider the addressing the following technical/scientific issues as part of the project objectives.

Air sampling/monitoring should be designed to inform exposure modeling efforts. Important parameters to exposure modeling include wind direction, distance from field, spatial range of the pollutant and other environmental and chemical characteristics. DPR might consider performing air monitoring and modeling simultaneously thus accomplishing the intend goals of the project (air monitoring) and also serving a validation function to test the accuracy of exposure estimates based on models. EHIB has developed exposure models using the DPR pesticide use database. We would be happy to share this expertise to support such an effort.

#### Issue 2: Community Selection

Two of the example factors, pesticide use and children demographics, are potential selection criteria. Meteorology (e.g. wind speed) might best be considered a community level variable that is secondary in your selection criteria.

Another potential selection criteria is crop use patterns around the community. One valuable outcome would be to develop crop-based exposure profiles for major production commodities.

#### Issue 3: Selecting Pesticides to Monitor

Crop use patterns (see Issue 2) may be an important selection criteria. For example, if there are a set of compounds with use on multiple crops, then it might be useful for developing crop profiles. With regard to volatility, it might be helpful to select compounds with a range of vapor pressures. The hope would be to develop general data about the exposure potential in relation to vapor pressure. You would also need to consider half-life. (see attached article) The spatial range of the pollutant will be a factor of half-life and vapor pressure. You might control for half-life (e.g. select compounds that have similar half-lives under environmental conditions) and choose a range of vapor pressures.

If you can get more bang-for-the-buck by selecting pesticides that can be analyzed in the same sample, then that would be great.

One other thought, in the two state agricultural worker study they have done some analysis on inert ingredients in pesticide formulations. This is a longer conversation and needs to be thought through, but it might be worth talking to this group to inform pesticide selection.

We imagine that community stakeholders will have views regarding the toxicity issues. These comments are intended to complement not supplement the views of community stakeholders.

Summary:

Major new ideas presented in these comments:

- Attempt to use air monitoring to validate exposure models (evaluate the impact of distance from field to refine exposure models)
- Develop crop exposure profiles
- Select pesticides based on a range of vapor pressures
- Consider talking with other researchers to identify priority products for monitoring